



SEQUENCE LISTING

<110> NAGY et al.
<120> HUMAN POLYPEPTIDES CAUSING OR LEADING TO THE KILLING
OF CELLS INCLUDING LYMPHOID TUMOR CELLS
<130> GPCG-P01-003
<140> 10/001934
<141> 2001-11-15
<150> PCT/US01/15625
<151> 2001-05-14
<150> EP 00 11 0065.0
<151> 2000-05-12
<150> US 60/238,762
<151> 2000-10-06
<160> 62
<170> PatentIn version 3.2

<210> 1
<211> 10
<212> PRT
<213> artificial sequence
<220>
<221> VHconCDR3
<222> (1)..(10)
<223> "Xaa" represents any amino acid residue
<400> 1

Xaa Xaa Xaa Xaa Arg Gly Xaa Phe Asp Xaa
1 5 10

<210> 2
<211> 8
<212> PRT
<213> artificial sequence
<220>
<221> VLconCDR3
<222> (1)..(8)
<223> "Xaa" represents any amino acid residue
<400> 2

Gln Ser Tyr Asp Xaa Xaa Xaa Xaa

1

5

<210> 3
<211> 10
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-VH-CDR3,MS-GPC8-1-VH-CDR3,MS-GPC8-6-VH-CDR3, MS-GPC8-9-VH-
CDR3,MS-GPC8-10-VH-CDR3,MS-GPC8-17-VH-CDR3, MS-GPC8-18-VH-CDR3, MS-GPC8-27-VH-
CDR3, MS-GPC8-6-2-VH-CDR3, MS-GPC8-6-13-VH-CDR3, MS-GPC8-6-19-VH-CDR3, MS-GPC8-
6-27-VH-CDR3, MS-GPC8-6-45-VH-CDR3, MS-GPC8-10-57-VH-CDR3, MS-GPC8-27-7-VH-CDR3,
MS-GPC8-27-10-VH-CDR3, MS-GPC8-27-41-VH-CDR3, MS-GPC8-6-47-VH-CDR3
<222> (1)..(10)

<400> 3

Ser Pro Arg Tyr Arg Gly Ala Phe Asp Tyr
1 5 10

<210> 4
<211> 8
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-10-VL-CDR3,MS-GPC8-10-57-VL-CDR3
<222> (1)..(8)

<400> 4
Gln Ser Tyr Asp Leu Ile Arg His
1 5

<210> 5
<211> 8
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-27-VL-CDR3,MS-GPC8-27-7-VL-CDR3,MS-GPC8-27-10-VL-CDR3,MS-GPC8-27-
41-VL-CDR3
<222> (1)..(8)

<400> 5
Gln Ser Tyr Asp Met Asn Val His
1 5

<210> 6
<211> 13
<212> PRT
<213> artificial sequence

<220>

<221> VLconCDR1
 <222> (1)..(13)

 <220>
 <221>
 <222> (4)..(5)
 <223> "Xaa" represents any amino acid residue

 <220>
 <221>
 <222> (9)..(9)
 <223> "Xaa" represents any amino acid residue

 <220>
 <221>
 <222> (13)..(13)
 <223> "Xaa" represents any amino acid residue

 <400> 6
 Ser Gly Ser Xaa Xaa Asn Ile Gly Xaa Asn Tyr Val Xaa
 1 5 10

 <210> 7
 <211> 13
 <212> PRT
 <213> artificial sequence

 <220>
 <221> MS-GPC-8-10-57-VL-CDR1, MS-GPC-8-27-41-VL-CDR1
 <222> (1)..(13)

 <400> 7
 Ser Gly Ser Glu Ser Asn Ile Gly Asn Asn Tyr Val Gln
 1 5 10

 <210> 8
 <211> 8
 <212> PRT
 <213> artificial sequence

 <220>
 <221> Streptag
 <222> (1)..(8)

 <400> 8

 Trp Ser His Pro Gln Phe Glu Lys
 1 5

 <210> 9
 <211> 4
 <212> PRT
 <213> artificial sequence

 <220>

<221> FLAG
<222> (1)..(4)

<400> 9

Asp Tyr Lys Asp
1

<210> 10
<211> 17
<212> DNA
<213> artificial sequence

<220>
<221> PrimerCRT5
<222> (1)..(17)

<400> 10
gtggtggttc cgatatc 17

<210> 11
<211> 44
<212> DNA
<213> artificial sequence

<220>
<221> PrimerCRT6
<222> (1)..(44)

<400> 11
agcgtcacac tcggtgcggc ttctggctgg ccaagaacgg gtta 44

<210> 12
<211> 13
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC1-VL-CDR1,MS-GPC8-VL-CDR1,MS-GPC10-VL-CDR1,MS-GPC8-1-VL-CDR1,MS-GPC8-6-VL-CDR1,MS-GPC8-9-VL-CDR1,MS-GPC8-10-VL-CDR1, MS-GPC8-17-VL-CDR1,MS-GPC8-18-VL-CDR1,MS-GPC8-27-VL-CDR1,
<222> (1)..(13)

<400> 12
Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn Tyr Val Ser
1 5 10

<210> 13
<211> 13
<212> PRT
<213> artificial sequence

<220>

<221> MS-GPC8-6-2-VL-CDR1

<222> (1)..(13)

<400> 13

Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn Tyr Val His
1 5 10

<210> 14

<211> 13

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-6-19-VL-CDR1

<222> (1)..(13)

<400> 14

Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn Tyr Val Ala
1 5 10

<210> 15

<211> 13

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-6-27-VL-CDR1

<222> (1)..(13)

<400> 15

Ser Gly Ser Asp Ser Asn Ile Gly Ala Asn Tyr Val Thr
1 5 10

<210> 16

<211> 13

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-6-45-VL-CDR1

<222> (1)..(13)

<400> 16

Ser Gly Ser Glu Pro Asn Ile Gly Ser Asn Tyr Val Phe
1 5 10

<210> 17

<211> 13

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-27-7-VL-CDR1

<222> (1)..(13)

<400> 17

Ser Gly Ser Glu Ser Asn Ile Gly Asn Asn Tyr Val Gly
1 5 10

<210> 18

<211> 13

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-27-10-VL-CDR1

<222> (1)..(13)

<400> 18

Ser Gly Ser Glu Ser Asn Ile Gly Ala Asn Tyr Val Asn
1 5 10

<210> 19

<211> 10

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC1-VH-CDR3

<222> (1)..(10)

<400> 19

Gln Tyr Gly His Arg Gly Gly Phe Asp His
1 5 10

<210> 20

<211> 9

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC6-VH-CDR3

<222> (1)..(9)

<400> 20

Gly Tyr Gly Arg Tyr Ser Pro Asp Leu
1 5

<210> 21

<211> 8

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC6-VL-CDR3

<222> (1)..(8)

<400> 21

Gln Gln Tyr Ser Asn Leu Pro Phe

1

5

<210> 22

<211> 8

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-VL-CDR3

<222> (1)..(8)

<400> 22

Gln Ser Tyr Asp Met Pro Gln Ala

1

5

<210> 23

<211> 8

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC10-VL-CDR3

<222> (1)..(8)

<400> 23

Gln Ser Tyr Asp Leu Thr Met Gly

1

5

<210> 24

<211> 8

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-1-VL-CDR3

<222> (1)..(8)

<400> 24

Gln Ser Tyr Asp Phe Ser His Tyr

1

5

<210> 25

<211> 8

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-9-VL-CDR3

<222> (1)..(8)

<400> 25

Gln Ser Tyr Asp Ile Gln Leu His
1 5

<210> 26

<211> 8

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-17-VL-CDR3

<222> (1)..(8)

<400> 26

Gln Ser Tyr Asp Phe Ser Val Tyr
1 5

<210> 27

<211> 8

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-18-VL-CDR3

<222> (1)..(8)

<400> 27

Gln Ser Tyr Asp Phe Ser Ile Tyr
1 5

<210> 28

<211> 109

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-1-VL

<222> (1)..(109)

<400> 28

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Phe Ser His
 85 90 95
 Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105

<210> 29
 <211> 13
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC8-6-13-VL-CDR1
 <222> (1)..(13)

<400> 29
 Ser Gly Ser Glu Ser Asn Ile Gly Ala Asn Tyr Val Thr
 1 5 10

<210> 30
 <211> 13
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC8-6-47-VL-CDR1
 <222> (1)..(13)

<400> 30
 Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn Tyr Val Ser
 1 5 10

<210> 31
 <211> 109
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC8-9-VL
 <222> (1)..(109)

<400> 31

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln

1	5	10	15
Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn	20	25	30
Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu	35	40	45
Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser	50	55	60
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln	65	70	75
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ile Gln Leu	85	90	95
His Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly	100	105	

<210> 32
 <211> 109
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC8-18-VL
 <222> (1)..(109)

<400> 32

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln	1	5	10	15
Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn	20	25	30	
Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu	35	40	45	
Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser	50	55	60	
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln	65	70	75	80
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Phe Ser Ile	85	90	95	
Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly	100	105		

<210> 33
 <211> 3548
 <212> DNA
 <213> artificial sequence

<220>

<221> pMORPH13_scFv

<222> (1)..(3548)

<400> 33

```
agagcatgcg taggagaaaa taaaatgaaa caaagcacta ttgcactggc actcttaccg      60
ttgctcttca cccctgttac caaagccgac tacaaagatg aagtgcaatt ggttcagtct      120
ggcgcggaag tgaaaaaacc gggcagcagc gtgaaagtga gctgcaaagc ctccggaggc      180
acttttagca gctatgcat tagctgggtg cgccaagccc ctgggcaggg tctcgagtgg      240
atgggcggca ttattccgat ttttggcacg gcgaactacg cgcagaagtt tcagggccgg      300
gtgaccatta ccgcgatga aagcaccagc accgcgtata tggaactgag cagcctgcgt      360
agcgaagata cggccgtgta ttattgcgcg cgttattatg atcgtatgta taatatggat      420
tattggggcc aaggcaccct ggtgacggtt agctcagcgg gtggcggttc tggcggcggt      480
gggagcggtg gcggtggttc tggcggtggt ggttccgata tcgaactgac ccagccgcct      540
tcagtgagcg ttgcaccagg tcagaccgcg cgtatctcgt gtagcggcga tgcgctgggc      600
gataaatacg cgagctggtg ccagcagaaa cccgggcagg cgccagttct ggtgatttat      660
gatgattctg accgtccctc aggcattccc gaacgcttta gcggatccaa cagcggcaac      720
accgcgaccc tgaccattag cggcactcag gcggaagacg aagcggatta ttattgccag      780
agctatgacg ctcatatgcg tcctgtgttt ggcggcggca cgaagttaac cgttcttggc      840
caggaattcg agcagaagct gatctctgag gaggatctga actaggggtg tggtcttggt      900
tccggtgatt ttgattatga aaagatggca aacgctaata agggggctat gaccgaaaat      960
gccgatgaaa acgcgctaca gtctgacgct aaaggcaaac ttgattctgt cgctactgat     1020
tacggtgctg ctatcgatgg ttctattggt gacgtttccg gccttgctaa tggtaatggt     1080
gctactggtg attttgctgg ctctaattcc caaatggctc aagtcggtga cggtgataat     1140
tcacctttaa tgaataatth ccgtcaatat ttaccttccc tccctcaatc ggttgaatgt     1200
cgcccttttg tctttggcgc tggtaaacca tatgaattht ctattgattg tgacaaaata     1260
aacttattcc gtggtgtctt tgcgtttctt ttatatgttg ccacctttat gtatgtatth     1320
tctacgtttg ctaacatact gcgtaataag gagtcttgat aagcttgacc tgtgaagtga     1380
aaaatggcgc agattgtgcg acattthttt tgtctgccgt ttaatgaaat tgtaaacgth     1440
aatatthtgt taaaattcgc gttaaattht tgtaaatca gtcatttht taaccaatag     1500
gccgaaatcg gcaaatccc ttataaatca aaagaataga ccgagatagg gttgagtgtt     1560
```

gttccagttt	ggaacaagag	tccactatta	aagaacgtgg	actccaacgt	caaagggcga	1620
aaaaccgtct	atcagggcga	tggcccacta	cgagaacccat	caccctaatac	aagtttttttg	1680
gggtcgaggt	gccgtaaagc	actaaatcgg	aaccctaaaag	ggagcccccg	atttagagct	1740
tgacggggaa	agccggcgaa	cgtggcgaga	aaggaaggga	agaaagcgaa	aggagcgggc	1800
gctagggcgc	tggcaagtgt	agcggtcacg	ctgcgcgtaa	ccaccacacc	cgccgcgctt	1860
aatgcgccgc	tacagggcgc	gtgctagcca	tgtgagcaaa	aggccagcaa	aaggccagga	1920
accgtaaaaa	ggccgcgttg	ctggcgtttt	tccataggct	ccgccccct	gacgagcatc	1980
acaaaaatcg	acgctcaagt	cagaggtggc	gaaacccgac	aggactataa	agataaccagg	2040
cgtttcccc	tggaagctcc	ctcgtgcgct	ctcctgttcc	gacctgccg	cttaccggat	2100
acctgtccgc	ctttctccct	tcgggaagcg	tggcgctttc	tcatagctca	cgctgtaggt	2160
atctcagttc	ggtgtaggtc	gttcgctcca	agctgggctg	tgtgcacgaa	cccccgttc	2220
agtccgaccg	ctgcgcctta	tccggtaact	atcgtcttga	gtccaacccg	gtaagacacg	2280
acttatcgcc	actggcagca	gccactggta	acaggattag	cagagcgagg	tatgtaggcg	2340
gtgctacaga	gttcttgaag	tgggtggccta	actacggcta	cactagaaga	acagtatttg	2400
gtatctgcgc	tctgctgtag	ccagttacct	tcggaaaaag	agttggtagc	tcttgatccg	2460
gcaaacaaac	caccgctggg	agcggtggtt	tttttgtttg	caagcagcag	attacgcgca	2520
gaaaaaaaagg	atctcaagaa	gatcctttga	tcttttctac	ggggtctgac	gctcagtggg	2580
acgaaaaactc	acgttaaggg	attttggtca	gatctagcac	caggcgttta	agggcaccaa	2640
taactgcctt	aaaaaaatta	cgccccgccc	tgccactcat	cgcagtactg	ttgtaattca	2700
ttaagcattc	tgccgacatg	gaagccatca	caaacggcat	gatgaacctg	aatcgccagc	2760
ggcatcagca	ccttgctgcc	ttgcgtataa	tatttgccca	tagtgaaaac	gggggcgaag	2820
aagttgtcca	tattggctac	gtttaaatca	aaactgggtga	aactcaccca	gggattggct	2880
gagacgaaaa	acatattctc	aataaacctt	ttagggaaat	aggccagggt	ttcaccgtaa	2940
cacgccacat	cttgccaata	tatgtgtaga	aactgccgga	aatcgtcgtg	gtattcactc	3000
cagagcgatg	aaaacgtttc	agtttgctca	tggaaaacgg	tgtaacaagg	gtgaacacta	3060
tcccatatca	ccagctcacc	gtctttcatt	gccatacggg	actccgggtg	agcattcatc	3120
aggcgggcaa	gaatgtgaat	aaaggccgga	taaaacttgt	gcttattttt	ctttacggtc	3180
tttaaaaagg	ccgtaatatc	cagctgaacg	gtctgggttat	aggtacattg	agcaactgac	3240

tgaaatgcct caaaatgttc tttagatgc cattgggata tatcaacggt ggtatatcca	3300
gtgatttttt tctccatttt agcttcctta gtcctgaaa atctcgataa ctcaaaaaat	3360
acgcccggta gtgatcttat ttcattatgg tgaaagttgg aacctcaccg gacgtctaata	3420
gtgagtttagc tcaactcatta ggcaccccag gctttacact ttatgcttcc ggctcgatatg	3480
ttgtgtggaa ttgtgagcgg ataacaattt cacacaggaa acagctatga ccatgattac	3540
gaattttct	3548

<210> 34
 <211> 4410
 <212> DNA
 <213> artificial sequence

<220>
 <221> pMx7_FS_5D2
 <222> (1)..(4410)

<400> 34	
tctagagcat gcgtaggaga aaataaaatg aaacaaagca ctattgcact ggcactctta	60
ccgttgctct tcacccctgt taccaaaagcc gactacaaag atgaagtgca attggtggaa	120
agcggcggcg gcctggtgca accgggcggc agcctgcgtc tgagctgcgc ggctccgga	180
tttaccttta gcagctatgc gatgagctgg gtgcgccaag cccctgggaa gggctctcag	240
tgggtgagcg cgattagcgg tagcggcggc agcacctatt atgcggatag cgtgaaaggc	300
cgtttttacca tttcacgtga taattcgaaa aacaccctgt atctgcaaata gaacagcctg	360
cgtgcggaag atacggccgt gtattattgc gcgcgtgtta agaagcattt ttctcgtaag	420
aattggtttg attattgggg ccaaggcacc ctggtgacgg ttagctcagc ggggtggcgt	480
tctggcggcg gtgggagcgg tggcgggtgt tctggcgggt gtgggttccga tatcgtgatg	540
accagagacc cactgagcct gccagtgact ccgggcgagc ctgcgagcat tagctgcaga	600
agcagccaaa gcctgctgca tagcaacggc tataactatc tggattggta ccttcaaaaa	660
ccaggtcaaaa gccgcagct attaatattt ctgggcagca accgtgccag tgggggtccc	720
gatcgtttta gcggctctgg atccggcacc gattttaccc tgaaaattag ccgtgtggaa	780
gctgaagacg tgggcgtgta ttattgccag cagcattata ccaccccgcc gacctttggc	840
cagggtagca aagttgaaat taaacgtacg gaattcgact ataaagatga cgatgacaaa	900
ggcgcgccgt ggagccaccc gcagtttgaa aaatgataag cttgacctgt gaagtgaata	960
atggcgcaga ttgtgcgaca ttttttttgt ctgccgttta attaaagggg gggggggggc	1020

ggcctggggg ggggtgtaca tgaaattgta aacgttaata ttttgttaaa attcgcgtta	1080
aattttttgtt aaatcagctc attttttaac caataggccg aaatcggcaa aatcccttat	1140
aaatcaaaaag aatagaccga gatagggttg agtggtgttc cagtttgga caagagtcca	1200
ctattaaaga acgtggactc caacgtcaaa gggcgaaaaa ccgtctatca gggcgatggc	1260
ccactacgag aaccatcacc ctaatcaagt tttttggggt cgagggtgccg taaagcacta	1320
aatcggaacc ctaaaggag cccccgattt agagcttgac ggggaaagcc ggcgaacgtg	1380
gcgagaaaag aagggaagaa agcgaaaagga gcgggcgcta gggcgctggc aagtgtagcg	1440
gtcacgctgc gcgtaaccac cacacccgcc gcgcttaatg cgccgctaca gggcgcgctgc	1500
tagactagtg tttaaaccgg accggggggg ggcttaagtg ggctgcaaaa caaaacggcc	1560
tcctgtcagg aagccgcttt tatcgggtag cctcactgcc cgctttccag tcgggaaacc	1620
tgctgtgcca gctgcatcag tgaatcggcc aacgcgcggg gagaggcgggt ttgcgtattg	1680
ggagccaggg tggtttttct tttcaccagt gagacgggca acagctgatt gcccttcacc	1740
gcctggccct gagagagttg cagcaagcgg tccacgctgg tttgccccag caggcgaaaa	1800
tcctgtttga tgggtggtcag cggcgggata taacatgagc tgtcctcgggt atcgctgtat	1860
cccactaccg agatgtccgc accaacgcgc agcccgact cggtaatggc acgcattgcg	1920
cccagcgcca tctgatcgtt ggcaaccagc atcgcagtgg gaacgatgcc ctcatcagc	1980
atttgcatgg tttgttgaaa accggacatg gcactccagt cgccttcccg ttccgctatc	2040
ggctgaattt gattgcgagt gagatattta tgccagccag ccagacgcag acgcgccgag	2100
acagaactta atgggccagc taacagcgcg atttgctggt ggcccaatgc gaccagatgc	2160
tccacgcca gtcgcgtacc gtcctcatgg gagaaaataa tactgttgat ggggtgtctgg	2220
tcagagacat caagaaataa cgccggaaca ttagtgagg cagcttccac agcaatagca	2280
tcctggtcat ccagcggata gttaataatc agccactga cacgttgccg gagaagattg	2340
tgcaccgccg ctttacaggc ttcgacgccg cttcgttcta ccatcgacac gaccacgctg	2400
gcaccagtt gatcggcgcg agatttaatc gccgcgacaa tttgcgacgg cgcgtgcagg	2460
gccagactgg aggtggcaac gccaatcagc aacgactgtt tgcccgccag ttgttgtgcc	2520
acgcggttag gaatgtaatt cagctccgcc atcgccgctt ccactttttc ccgcgttttc	2580
gcagaaacgt ggctggcctg gttcaccacg cgggaaacgg tctgataaga gacaccggca	2640
tactctgca catcgataa cgttactggt ttcacattca ccaccctgaa ttgactctct	2700
tccgggcgct atcatgccat accgcgaaag gttttgcgcc attcgatgct agccatgtga	2760

gcaaaaggcc agcaaaaggc caggaaccgt aaaaaggccg cgttgctggc gtttttccat	2820
aggctccgcc cccctgacga gcatcacaaa aatcgacgct caagtcagag gtggcgaaac	2880
ccgacaggac tataaaagata ccaggcgttt ccccttgga gctccctcgt gcgctctcct	2940
gttccgaccc tgccgcttac cggatacctg tccgcctttc tcccttcggg aagcgtggcg	3000
ctttctcata gctcacgctg taggtatctc agttcggtgt aggtcgttcg ctccaagctg	3060
ggctgtgtgc acgaaccccc cgttcagccc gaccgctgcg ccttatccgg taactatcgt	3120
cttgagtcca acccgtaag acacgactta tcgccactgg cagcagccac tggtaacagg	3180
attagcagag cgaggatatgt aggcggtgct acagagttct tgaagtgggt gcctaactac	3240
ggctacacta gaagaacagt atttggtatc tgcgctctgc tgtagccagt taccttcgga	3300
aaaagagttg gtagctcttg atccggcaaa caaaccaccg ctggtagcgg tggttttttt	3360
gtttgcaagc agcagattac gcgcagaaaa aaaggatctc aagaagatcc tttgatcttt	3420
tctacggggt ctgacgctca gtggaacgaa aactcacgtt aagggatttt ggtcagatct	3480
agcaccaggc gtttaagggc accaataact gccttaaaaa aattacgccc cgccctgcc	3540
ctcatcgag tactgttgta attcattaag cattctgccg acatggaagc catcacaaac	3600
ggcatgatga acctgaatcg ccagcggcat cagcaccttg tcgccttgcg tataatattt	3660
gcccatagtg aaaacggggg cgaagaagtt gtccatattg gctacgttta aatcaaaact	3720
ggtgaaaactc acccagggat tggctgagac gaaaaacata ttctcaataa accctttagg	3780
gaaataggcc aggttttcac cgtaacacgc cacatcttgc gaatatatgt gtagaaaactg	3840
ccggaaatcg tcgtggtatt cactccagag cgatgaaaac gtttcagttt gctcatggaa	3900
aacggtgtaa caagggtgaa cactatccca tatcaccagc tcaccgtctt tcattgccat	3960
acggaactcc gggtagcat tcatcaggcg ggcaagaatg tgaataaagg ccggataaaa	4020
cttgtgctta tttttcttta cggctcttaa aaaggccgta atatccagct gaacggtctg	4080
gttataggta cattgagcaa ctgactgaaa tgcctcaaaa tgttctttac gatgccattg	4140
ggatatatca acggtggtat atccagtgat ttttttctcc attttagctt ccttagctcc	4200
tgaaaatctc gataactcaa aaaatacgcc cggtagtgat cttatttcat tatggtgaaa	4260
gttggaacct caccgacgt ctaatgtgag ttagctcact cattaggcac ccaggcttt	4320
acactttatg cttccggctc gtatgttgtg tggaattgtg agcggataac aatttcacac	4380
aggaaacagc tatgaccatg attacgaatt	4410

<210> 35
 <211> 5020
 <212> DNA
 <213> artificial sequence

<220>
 <221> pMx9_Fab_GPC8
 <222> (1)..(5020)

<400> 35
 atcgtgctga cccagccgcc ttcagtgagt ggcgaccag gtcagcgtgt gaccatctcg 60
 tgtagcggca gcagcagcaa cattggcagc aactatgtga gctggtacca gcagttgccc 120
 gggacggcgc cgaaactgct gatttatgat aacaaccagc gtccctcagg cgtgccggat 180
 cgtttttagcg gatccaaaag cggcaccagc gcgagccttg cgattacggg cctgcaaagc 240
 gaagacgaag cggattatta ttgccagagc tatgacatgc ctcaggctgt gtttggcggc 300
 ggcacgaagt ttaaccgttc ttggccagcc gaaagccgca ccgagtgtga cgctgtttcc 360
 gccgagcagc gaagaattgc aggcgaacaa agcgaccctg gtgtgcctga ttagcgactt 420
 ttatccggga gccgtgacag tggcctggaa ggcatagc agccccgtca aggcgggagt 480
 ggagaccacc acaccctcca aacaaagcaa caacaagtac gcggccagca gctatctgag 540
 cctgacgcct gagcagtgga agtcccacag aagctacagc tgccagggtca cgcatgaggg 600
 gagcaccgtg gaaaaaaccg ttgcgccgac tgaggcctga taagcatgcg taggagaaaa 660
 taaaatgaaa caaagcacta ttgcaactggc actcttaccg ttgctcttca cccctgttac 720
 caaagcccag gtgcaattga aagaaagcgg cccggccctg gtgaaaccga cccaaaccct 780
 gaccctgacc tgtacctttt ccggatttag cctgtccacg tctggcgttg gcgtgggctg 840
 gattcgccag ccgcctggga aagccctcga gtggctggct ctgattgatt gggatgatga 900
 taagtattat agcaccagcc tgaaaacgcg tctgaccatt agcaaagata cttcgaaaaa 960
 tcagggtggtg ctgactatga ccaacatgga cccggtggat acggccacct attattgcgc 1020
 gcgttctcct cgttatcgtg gtgcttttga ttattggggc caaggcaccg tggtgacggt 1080
 tagctcagcg tcgaccaaag gtccaagcgt gtttccgctg gctccgagca gcaaaagcac 1140
 cagcggcggc acggctgccc tgggctgcct ggtaaagat tatttcccgg aaccagtcac 1200
 cgtgagctgg aacagcgggg cgctgaccag cggcgtgcat acctttccgg cgggtgctgca 1260
 aagcagcggc ctgtatagcc tgagcagcgt tgtgaccgtg ccgagcagca gcttaggcac 1320
 tcagacctat atttgcaacg tgaaccataa accgagcaac accaaagtgg ataaaaaagt 1380

ggaaccgaaa agcgaattcg actataaaga tgacgatgac aaaggcgcg	cgtggagcca	1440
cccgagttt gaaaaatgat aagcttgacc tgtgaagtga aaaatggcg	agattgtgcg	1500
acattttttt tgtctgccgt ttaattaaag gggggggggg gccggcctgg	gggggggtgt	1560
acatgaaatt gtaaacttta atattttgtt aaaattcgcg ttaaattttt	gttaaatcag	1620
ctcatttttt aaccaatagg ccgaaatcgg caaaatccct tataaatcaa	agaatagac	1680
cgagataggg ttgagtgttg ttccagtttg gaacaagagt ccactattaa	agaacgtgga	1740
ctccaacgtc aaagggcgaa aaaccgtcta tcagggcgat ggcccactac	gagaaccatc	1800
accctaataca agtttttttg ggtcgaggtg ccgtaaagca ctaaatcgga	accctaaagg	1860
gagccccga tttagagctt gacggggaaa gccggcgaa	gtggcgagaa aggaaggga	1920
gaaagcgaaa ggagcgggcg ctagggcgct ggcaagtga gcggtcacgc	tgcgcgtaac	1980
caccacacc gccgcgctta atgcgccgct acagggcgcg tgctagacta	gtgtttaaac	2040
cggaccggg gggggcttaa gtgggctgca aaacaaaacg gcctcctgtc	aggaagccgc	2100
ttttatcgg tagcctcact gccgccttc cagtcgggaa acctgtcgtg	ccagctgcat	2160
cagtgaatcg gccaacgcgc ggggagaggc ggtttgcgta ttgggagcca	gggtggtttt	2220
tcttttcacc agtgagacgg gcaacagctg attgcccttc accgcctggc	cctgagagag	2280
ttgcagcaag cgggtccacgc tggtttgccc cagcaggcga aaatcctggt	tgatggtggt	2340
cagcggcgg atataacatg agctgtcctc ggtatcgctg tatcccacta	ccgagatgtc	2400
cgcaccaacg cgcagcccgg actcggtaat ggacgcatt gcgcccagcg	ccatctgac	2460
gttggaacc agcatcgag tgggaacgat gccctcattc agcatttgca	tggtttggtg	2520
aaaaccggac atggcactcc agtcgccttc ccgttccgct atcggctgaa	tttgattgcg	2580
agtgagatat ttatgccagc cagccagacg cagacgcgcc gagacagaac	ttaatgggcc	2640
agctaacagc gcgatttgct ggtggcccaa tgcgaccaga tgctccacgc	ccagtcgcgt	2700
accgtcctca tgggagaaaa taatactgtt gatgggtgtc tggtcagaga	catcaagaaa	2760
taacgccgga acattagtgc aggcagcttc cacagcaata gcacctggt	catccagcgg	2820
atagttaata atcagcccac tgacacgttg cgcgagaaga ttgtgcaccg	ccgctttaca	2880
ggcttcgacg ccgcttcgtt ctaccatcga cagcaccag ctggcaccga	gttgatcggc	2940
gcgagattta atcgcgcgca caatttgca cggcgcggtc agggccagac	tggaggtggc	3000
aacgccaatc agcaacgact gtttgccgc cagttgtgtg gccacgcggt	taggaatgta	3060

attcagctcc gccatcgccg cttccacttt ttcccgcgtt ttcgcagaaa cgtggctggc	3120
ctggttcacc acgcgggaaa cggctctgata agagacaccg gcatactctg cgacatcgta	3180
taacgttact ggtttcacat tcaccaccct gaattgactc tcttccgggc gctatcatgc	3240
cataccgcga aaggttttgc gccattcgat gctagccatg tgagcaaaaag gccagcaaaa	3300
ggccaggaac cgtaaaaagg ccgcgttgct ggcgtttttc cataggetcc gccccctga	3360
cgagcatcac aaaaatcgac gctcaagtca gaggtggcga aacccgacag gactataaag	3420
ataccaggcg tttccccctg gaagctccct cgtgcgctct cctgttccga ccctgccgct	3480
taccggatac ctgtccgcct ttctcccttc gggaagcgtg gcgctttctc atagctcacg	3540
ctgtaggtat ctcagttcgg tgtaggtcgt tcgctccaag ctgggctgtg tgcacgaacc	3600
ccccgttcag cccgaccgct gcgccttata cggttaactat cgtcttgagt ccaacccggt	3660
aagacacgac ttatcgccac tggcagcagc cactggtaac aggattagca gagcgaggta	3720
tgtaggcggg gctacagagt tcttgaagtg gtggcctaac tacggctaca ctagaagaac	3780
agtatttggg atctgcgctc tgctgtagcc agttaccttc ggaaaaagag ttggtagctc	3840
ttgatccggc aaacaaacca ccgctggtag cggtggtttt tttgtttgca agcagcagat	3900
tacgcgcaga aaaaaaggat ctcaagaaga tcctttgatc ttttctacgg ggtctgacgc	3960
tcagtggaac gaaaactcac gttaagggat tttggtcaga tctagcacca ggcgtttaag	4020
ggcaccaata actgccttaa aaaaattacg ccccgccctg ccactcatcg cagtactgtt	4080
gtaattcatt aagcattctg ccgacatgga agccatcaca aacggcatga tgaacctgaa	4140
tcgccagcgg catcagcacc ttgtcgcctt gcgtataata tttgcccata gtgaaaacgg	4200
gggcgaagaa gttgtccata ttggctacgt ttaaatacaa actggtgaaa ctcacccagg	4260
gattggctga gacgaaaaac atattctcaa taaacccttt agggaaatag gccaggtttt	4320
caccgtaaca cgccacatct tgcgaatata tgtgtagaaa ctgccggaaa tcgtcgtggg	4380
attcaactcca gagcgatgaa aacgtttcag tttgctcatg gaaaacgggtg taacaagggt	4440
gaacactatc ccatatcacc agctcaccgt ctttcattgc catacgaac tccgggtgag	4500
cattcatcag gcgggcaaga atgtgaataa aggccggata aaacttgtgc ttatttttct	4560
ttacgggtctt taaaaaggcc gtaatatcca gctgaacggg ctggttatag gtacattgag	4620
caactgactg aaatgcctca aaatgttctt tacgatgcc a ttgggatata tcaacgggtg	4680
tatatccagt gatttttttc tccattttag cttccttagc tcctgaaaat ctcgataact	4740
caaaaaatac gcccggtagt gatcttattt cattatgggtg aaagttggaa cctcaccgga	4800

cgtctaattgt gagtttagctc actcattagg caccaccaggc tttaactttt atgcttccgg 4860
 ctcgtatgtt gtgtggaatt gtgagcggat aacaatttca cacaggaaac agctatgacc 4920
 atgattacga atttctagat aacgagggca aaaaatgaaa aagacagcta tcgcgattgc 4980
 agtggcactg gctggtttcg ctaccgtagc gcaggccgat 5020

<210> 36
 <211> 4145
 <212> DNA
 <213> artificial sequence

<220>
 <221> pMORPH18_Fab_GPC8
 <222> (1)..(4145)

<400> 36
 tcagataacg agggcaaaaa atgaaaaaga cagctatcgc gattgcagtg gcactggctg 60
 gtttcgctac cgtagcgcag gccgatatcg tgctgaccca gccgccttca gtgagtggcg 120
 caccagggtca gcgtgtgacc atctcgtgta gcggcagcag cagcaacatt ggcagcaact 180
 atgtgagctg gtaccagcag ttgcccgga cggcgccgaa actgctgatt tatgataaca 240
 accagcgtcc ctcaggcgtg ccggatcgtt ttagcggatc caaaagcggc accagcgcga 300
 gccttgcgat tacgggcctg caaagcgaag acgaagcggg ttattattgc cagagctatg 360
 acatgcctca ggctgtgttt ggcgggcgga cgaagttaa ccgttcttgg ccagccgaaa 420
 gccgcaccga gtgtgacgct gtttcgcccg agcagcgaag aattgcaggc gaacaaagcg 480
 accctggtgt gcctgattag cgacttttat ccgggagccg tgacagtggc ctggaaggca 540
 gatagcagcc ccgtcaaggc gggagtggag accaccacac cctccaaaca aagcaacaac 600
 aagtacgcgg ccagcagcta tctgagcctg acgcctgagc agtggaaagtc ccacagaagc 660
 tacagctgcc aggtcacgca tgaggggagc accgtggaaa aaaccgttgc gccgactgag 720
 gcctgataag catgcgtagg agaaaataaa atgaaacaaa gcactattgc actggcactc 780
 ttaccgttgc tcttcacccc tgttaccaa gccaggtgc aattgaaaga aagcggcccg 840
 gccctggtga aaccgacca aaccctgacc ctgacctgta ccttttccgg atttagcctg 900
 tccacgtctg gcgttggcgt gggctggatt cgccagccgc ctgggaaagc cctcgagtgg 960
 ctggctctga ttgattggga tgatgataag tattatagca ccagcctgaa aacgcgtctg 1020
 accattagca aagatacttc gaaaaatcag gtgggtctga ctatgaccaa catggacccg 1080
 gtggatacgg ccacctatta ttgcgcgcgt tctcctcgtt atcgtggtgc ttttgattat 1140

tggggccaag gcaccctggt gacggttagc tcagcgtcga ccaaagggtcc aagcgtgttt	1200
ccgctggctc cgagcagcaa aagcaccagc ggcggcacgg ctgccctggg ctgcctggtt	1260
aaagattatt tcccggaacc agtcaccgtg agctggaaca gcggggcgct gaccagcggc	1320
gtgcatacct ttccggcggt gctgcaaagc agcggcctgt atagcctgag cagcgttggtg	1380
accgtgccga gcagcagctt aggcactcag acctatattt gcaacgtgaa ccataaaccg	1440
agcaacacca aagtggataa aaaagtggaa ccgaaaagcg aattcggggg agggagcggg	1500
agcggtgatt ttgattatga aaagatggca aacgctaata agggggctat gaccgaaaat	1560
gccgatgaaa acgcgctaca gtctgacgct aaaggcaaac ttgattctgt cgctactgat	1620
tacggtgctg ctatcgatgg tttcattggt gacgtttccg gccttgctaa tggtaatggt	1680
gctactgggtg attttgctgg ctctaattcc caaatggctc aagtcggtga cggtgataat	1740
tcacctttaa tgaataattt ccgtcaatat ttaccttccc tccctcaatc ggttgaatgt	1800
cgcccttttg tctttggcgc tggtaaacca tatgaatttt ctattgattg tgacaaaata	1860
aacttattcc gtggtgtctt tgcgtttctt ttatatgttg ccacctttat gtatgtattt	1920
tctacgtttg ctaacatact gcgtaataag gagtcttgat aagcttgacc tgtgaagtga	1980
aaaatggcgc agattgtgcg acattttttt tgtctgccgt ttaatgaaat tgtaaacggt	2040
aatattttgt taaaattcgc gttaaatttt tgttaaataca gctcattttt taaccaatag	2100
gccgaaatcg gcaaaaatccc ttataaatca aaagaataga ccgagatagg gttgagtgtt	2160
gttccagttt ggaacaagag tccactatta aagaacgtgg actccaacgt caaagggcga	2220
aaaaccgtct atcagggcga tggcccacta cgagaaccat caccctaatac aagttttttg	2280
gggtcgaggt gccgtaaagc actaaatcgg aaccctaaag ggagcccccg atttagagct	2340
tgacggggaa agccggcgaa cgtggcgaga aagggaaggga agaaagcgaa aggagcgggc	2400
gctagggcgc tggcaagtgt agcggtcacg ctgcgcgtaa ccaccacacc cgccgcgctt	2460
aatgcgccgc tacagggcgc gtgctagcca tgtgagcaaa aggccagcaa aaggccagga	2520
accgtaaaaa ggccgcgttg ctggcgtttt tccataggct ccgccccct gacgagcatc	2580
acaaaaatcg acgctcaagt cagagggtggc gaaacccgac aggactataa agataccagg	2640
cgtttcccc tggaagctcc ctctgctgct ctctgttcc gacctgccg cttaccggat	2700
acctgtccgc ctttctccct tcgggaagcg tggcgctttc tcatagctca cgctgtaggt	2760
atctcagttc ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa cccccgttc	2820

```

agtccgaccg ctgcgcctta tccggtaact atcgtcttga gtccaacccg gtaagacacg 2880
acttatcgcc actggcagca gccactggta acaggattag cagagcgagg tatgtaggcg 2940
gtgctacaga gttcttgaag tggcggccta actacggcta cactagaaga acagtatttg 3000
gtatctgcgc tctgctgtag ccagttacct tcggaaaaag agttggtagc tcttgatccg 3060
gcaaacaaac caccgctggt agcgggtggt tttttgtttg caagcagcag attacgcgca 3120
gaaaaaaagg atctcaagaa gatcctttga tcttttctac ggggtctgac gctcagtgga 3180
acgaaaactc acgttaaggg attttgggtca gatctagcac caggcgttta agggcaccaa 3240
taactgcctt aaaaaaatta cgccccgcc tgccactcat cgcagtactg ttgtaattca 3300
ttaagcattc tgccgacatg gaagccatca caaacggcat gatgaacctg aatcgccagc 3360
ggcatcagca ccttgtcgcc ttgcgtataa tatttgccca tagtgaaaac gggggcgaag 3420
aagttgtcca tattggctac gtttaaataa aaactgggtga aactcaccca gggattggct 3480
gagacgaaaa acatattctc aataaacctt ttagggaaat aggccagggtt ttcaccgtaa 3540
cacgccacat cttgcgaata tatgtgtaga aactgccgga aatcgtcgtg gtattcactc 3600
cagagcgatg aaaacgtttc agtttgctca tggaaaacgg tgtaacaagg gtgaacacta 3660
tcccatatca ccagctcacc gtctttcatt gccatacgga actccgggtg agcattcatc 3720
aggcgggcaa gaatgtgaat aaaggccgga taaaacttgt gcttattttt ctttacggtc 3780
tttaaaaagg ccgtaatatc cagctgaacg gtctgggtat aggtacattg agcaactgac 3840
tgaaatgcct caaaatgttc tttacgatgc cattgggata tatcaacggg ggtatatcca 3900
gtgatttttt tctccatttt agcttcctta gctcctgaaa atctcgataa ctcaaaaaat 3960
acgcccggta gtgatcttat ttcattatgg tgaaagttgg aacctcaccg gacgtctaata 4020
gtgagttagc tcaactatta ggcaccccag gctttacact ttatgcttcc ggctcgatatg 4080
ttgtgtggaa ttgtgagcgg ataacaattt cacacaggaa acagctatga ccatgattac 4140
gaatt 4145

```

```

<210> 37
<211> 120
<212> PRT
<213> artificial sequence

```

```

<220>
<221> MS-GPC1-VH
<222> (1)..(120)

```

```

<400> 37

```

Gln Val Gln Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
 1 5 10 15
 Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
 20 25 30
 Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
 35 40 45
 Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
 50 55 60
 Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
 65 70 75 80
 Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Arg Gln Tyr Gly His Arg Gly Gly Phe Asp His Trp Gly Gln
 100 105 110
 Gly Thr Leu Val Thr Val Ser Ser
 115 120

<210> 38
 <211> 109
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC1-VL
 <222> (1)..(109)

<400> 38

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30
 Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Phe Asn Glu
 85 90 95
 Ser Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105

<210> 39
 <211> 118
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC6-VH
 <222> (1)..(118)

<400> 39

```

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1           5           10           15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
          20           25           30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
          35           40           45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
          50           55           60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
          65           70           75           80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
          85           90           95

Ala Arg Gly Tyr Gly Arg Tyr Ser Pro Asp Leu Trp Gly Gln Gly Thr
          100          105          110

Leu Val Thr Val Ser Ser
          115
  
```

<210> 40
 <211> 110
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC6-VL
 <222> (1)..(110)

<400> 40

```

Asp Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1           5           10           15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser
          20           25           30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
          35           40           45
  
```

Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Val Pro Ala Arg Phe Ser
50 55 60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu
65 70 75 80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Ser Asn Leu Pro
85 90 95

Phe Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr
100 105 110

<210> 41
<211> 120
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-VH, MS-GPC8-1-VH, MS-GPC8-6-VH, MS-GPC8-9-VH, MS-GPC8-10-VH, MS-
GPC8-17-VH, MS-GPC8-18-VH, MS-GPC8-27-VH, MS-GPC8-6-2-VH, MS-GPC8-6-13-VH, MS-GPC8-6-
27-VH, MS-GPC8-6-45-VH, MS-GPC8-6-47-VH, MS-GPC8-10-57-VH, MS-GPC8-27-7-VH, MS-GPC8-
27-10-VH, MS-GPC8-27-41-VH
<222> (1)..(120)

<400> 41

Gln Val Gln Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Ser Pro Arg Tyr Arg Gly Ala Phe Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 42
<211> 109
<212> PRT
<213> artificial sequence

<220>

<221> MS-GPC8-VL

<222> (1)..(109)

<400> 42

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Met Pro Gln
85 90 95

Ala Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 43

<211> 120

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC10-VH

<222> (1)..(120)

<400> 43

Gln Val Gln Leu Lys Glu Ser Gly Pro Ala Leu Val Lys Pro Thr Gln
1 5 10 15

Thr Leu Thr Leu Thr Cys Thr Phe Ser Gly Phe Ser Leu Ser Thr Ser
20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Pro Gly Lys Ala Leu Glu
35 40 45

Trp Leu Ala Leu Ile Asp Trp Asp Asp Asp Lys Tyr Tyr Ser Thr Ser
50 55 60

Leu Lys Thr Arg Leu Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val
65 70 75 80

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Arg Gln Leu His Tyr Arg Gly Gly Phe Asp Leu Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 44
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC10-VL
<222> (1)..(109)

<400> 44

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Leu Thr Met
85 90 95

Gly Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 45
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-6-2-VL
<222> (1)..(109)

<400> 45

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val His Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Asp His
 85 90 95
 Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105

<210> 46
 <211> 109
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC8-6-VL
 <222> (1)..(109)

<400> 46

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
 20 25 30
 Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Asp His
 85 90 95
 Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105

<210> 47
 <211> 109
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC8-6-19-VL
 <222> (1)..(109)

<400> 47

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ala Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Asp His
85 90 95

Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 48

<211> 109

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-10-VL

<222> (1)..(109)

<400> 48

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Leu Ile Arg
85 90 95

His Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 49

<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-6-27-VL
<222> (1)..(109)

<400> 49
Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15
Arg Val Thr Ile Ser Cys Ser Gly Ser Asp Ser Asn Ile Gly Ala Asn
20 25 30
Tyr Val Thr Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45
Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80
Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Asp His
85 90 95
Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 50
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-17-VL
<222> (1)..(109)

<400> 50
Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15
Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30
Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45
Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60
Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Phe Ser Val
85 90 95

Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 51
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-6-45-VL
<222> (1)..(109)

<400> 51
Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Pro Asn Ile Gly Ser Asn
20 25 30

Tyr Val Phe Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Asp His
85 90 95

Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 52
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-27-VL
<222> (1)..(109)

<400> 52
Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe
50 55 60

Ser Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
65 70 75

Gln Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Met Asn
80 85 90 95

Val His Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 109

<210> 53
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-6-47-VL
<222> (1)..(109)

<400> 53
Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ser Asn
20 25 30

Tyr Val Ser Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Asp His
85 90 95

Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 54
<211> 109
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC8-6-13-VL
<222> (1)..(109)

<400> 54
Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln

1 5 10 15
 Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ala Asn
 20 25 30
 Tyr Val Thr Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Asp His
 85 90 95
 Tyr Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105

<210> 55
 <211> 109
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC8-27-7-VL
 <222> (1)..(108)

<400> 55
 Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Asn Asn
 20 25 30
 Tyr Val Gly Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Met Asn Val
 85 90 95
 His Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105

<210> 56
 <211> 109
 <212> PRT
 <213> artificial sequence

<220>

<221> MS-GPC8-10-57-VL

<222> (1)..(109)

<400> 56

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Asn Asn
20 25 30

Tyr Val Gln Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Leu Ile Arg
85 90 95

His Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 57

<211> 109

<212> PRT

<213> artificial sequence

<220>

<221> MS-GPC8-27-10-VL

<222> (1)..(108)

<400> 57

Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
1 5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Ala Asn
20 25 30

Tyr Val Asn Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
35 40 45

Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
50 55 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Met Asn Val
85 90 95

His Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly

100

105

<210> 58
 <211> 109
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC8-27-41-VL
 <222> (1)..(108)

<400> 58
 Asp Ile Val Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
 1 5 10 15
 Arg Val Thr Ile Ser Cys Ser Gly Ser Glu Ser Asn Ile Gly Asn Asn
 20 25 30
 Tyr Val Gln Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile Tyr Asp Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu Gln
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Met Asn Val
 85 90 95
 His Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
 100 105

<210> 59
 <211> 8
 <212> PRT
 <213> artificial sequence

<220>
 <221> MS-GPC1-VL-CDR3
 <222> (1)..(8)

<400> 59
 Gln Ser Tyr Asp Phe Asn Glu Ser
 1 5

<210> 60
 <211> 8
 <212> PRT
 <213> artificial sequence

<220>

<221> MS-GPC8-6-VL-CDR3,MS-GPC8-6-2-VL-CDR3,MS-GPC8-6-13-VL-CDR3, MS-GPC8-6-19-VL-CDR3,MS-GPC8-6-27-VL-CDR3,MS-GPC8-6-45-VL-CDR3,MS-GPC8-6-47-VL-CDR3
<222> (1)..(8)

<400> 60

Gln Ser Tyr Asp Tyr Asp His Tyr
1 5

<210> 61
<211> 10
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC10-VH-CDR3
<222> (1)..(10)

<400> 61

Gln Leu His Tyr Arg Gly Gly Phe Asp Leu
1 5 10

<210> 62
<211> 12
<212> PRT
<213> artificial sequence

<220>
<221> MS-GPC6-VL-CDR1
<222> (1)..(12)

<400> 62

Arg Ala Ser Gln Ser Val Ser Ser Ser Tyr Leu Ala
1 5 10